5/26/95

NOTES ON VISIT TO MINSK, 15-23 May, 1995
Gilbert W Beebe, PhD

Introduction: This official visit was planned along the lines of a letter of 28 April from Dr Wachholz to Dr Stozharov, Director of the Institute of Radiation Medicine, Ministry of Health, Republic of Belarus. Our team consisted of Dr Jacob Robbins, Dr A B Brill, and myself. Dr Robbins and Dr Brill visited the Minsk Dispensary as well as the offices of the Institute where I spent my time with Institute staff. Dr Robbins and I also visited the Sakarov Institute (now a university) and the Institute of Oncology of the Ministry of Health where we saw Dr Yurij I Averkin, Head of he Epidemiological Department. Those I interacted with in the Institute of Radiation Medicine were:

Dr Alexander Stazharov, Director
Dr Boris Voronetsky, epidemiology
DR Constantin Moshchik, epidemiology
DR Larisa Astakhova, endocrinologist
Mr Arthur Kuvshinnikov, computer specialist
Dr Michael Orlov, quality control officer for our project
Dr Petrenko, head of a research laboratory of the Institute

We were disappointed to have to say "good-bye" to Mr Boris Leushev who was leaving the Institute for employment as a translator in a German hematology clinic.

In addition we met socially with Dr and Mrs Rytik, he being the former Director of the Institute of Epidemiology and Microbiology, with Dr Eugene Ivanov, Director of the Institute of Hematology and Blood Transfusion, and with Dr Olga Polyanskaya and her husband, Dr Yuri Poliansky. In our brief visit there, Dr Robbins and I toured the Sakarov Institute with Dr Alexander M Lutsko, the Rector. At the Institute of Oncology Dr Averkin introduced us to the cancer registry of Belarus for which he is now responsible. We were unable to coordinate schedules with Dr Okeanov, Director of the Center for Medical Technologies, Information Computer Systems, Economics, and Management of Public Health. He was ill when we first arrived.

Discussions with Dr Stozharov: Dr Robbins and I met with Dr Stozharov and Dr Voronetsky on Tuesday, 16 May, in the first of four sessions with him in the company of Dr Voronetsky. We learned that the shipment of computers was expected soon, but that the Customs issue had not yet been settled. Asked about a small working group to direct and coordinate preparations for the follow-up work to start, he named, instead, a large group consisting of Voronetsky, Rzheutski, Kuzmenkova, Silich, Kuvshinnikov, Lesnikova, Orlov, Petrenko, Astakhova, Demidchik, and Cherstvoy. He seemed not to recognize the need for a smaller, more active, group such as had met a few times with Dr Cherniack during the latter's February visit.

Dr Stozharov thought it would be possible to meet the following week with Dr Dzerzhitiky, director of the new specialized dispensary in Gomel, but then in Italy, but this proved to be impossible.

Asked about the status of the Manual, Dr Stozharov said that the staff had some changes to suggest, but that these had not yet been discussed and were not yet in the hands of Dr Orlov who was responsible for coordinating work on the Manual. Copies of the Russian version of the Manual were widely available, he said.

No appointments had yet been made to lead the work in endocrinology and ultrasonography, but it would be possible to visit the Minsk Dispensary for discussions with Dr Galina Nestorenko, Dr Rzheutsky, Dr Silich, Dr Petrenko, and perhaps others. Dr Voronetsky would make the arrangements.

We saw Dr Stozharov again on 17 May, before Dr Brill's arrival. At this time he showed us his 11 May letter to the Minister requesting her intervention in the Customs matter. (There had been an earlier letter, in March, according to Dr Wachholz). In December, he said, he had asked the Council of Ministers to declare the project a "national' project and to relieve the Institute from having to pay Customs duties on incoming equipment. His request had been denied orally, but he thought the denial might not be final. At the mention of our interest in time-lines, he surprised us with the statement that preparations for the project were up-to-date according to the protocol. I demurred at this and said we would work to provide him with a concrete plan that would, if fulfilled, enable him to begin the pilot work in early September as he said he wished to do.

The Ministry of Chernobyl, renamed Ministry of Extraordinary Situations, had refused support for the "American Project", although the Ministry was the main (only?) Belarussian support for research on the post-Chernobyl experience. The Ministry seemed interested in EC proposals, however, and also was broadening its scope to include preparations for environmental problems (unspecified). The EC was said to be interested primarily in radioecological issues. He thought the Ministry of Extraordinary Situations (MES) was well informed about our mutual project, that it was not ignorance that lay at the basis of its decision. The EC project support, including a plan for the payment of salaries, had been approved.

Dr Demidchik was working on a "DSP" project (undefined) with Italian support, and Dr Cherstvoy was working with Dr Williams in UK. WHO had sponsored an iodine survey, based on sampling urines.

Dr Stozharov mentioned that 1995 was the final year of his five-year budget cycle, and that his pay scale was below that of other institutes.

We next saw Dr Stozharov on 22 May, this time with Dr Brill. We learned that Dr Minenko was away but that we might be able to discuss the initial interview for the project with Dr Drozdovitch the following day. In response to my question about Dr Moshchik's relation to our project, since his name is on the research protocol, he said Dr Moshchik might work on the project later, after finishing the case-control study. He also indicated that Dr Moshchik is assigned to the WHO iodine project.

In view of Dr Voronetsky's complaint that his epidemiology unit lacked the computers needed for the project, I raised with Dr Stozharov the possibility of borrowing equipment from other units temporarily, pending the arrival of the equipment that I thought had been ordered for epidemiology. He agreed that he could do this easily enough. He had earlier mentioned that the DCC was now too small to exist officially as a unit, as 8 workers would be required, and that Mr Kuvshinnikov had been placed in Dr Voronetsky's epidemiology group. I fielded the epidemiology-training issue with no success. I believe he would have to hire from outside the Institute and that he is not prepared to do this, perhaps because salaries are so low and he is having trouble meeting his payroll. He shrugged off suggestions as to part-time work also. I mentioned my hope that it might eventually be possible to set up a training session in either Minsk or Kiev that would serve all three of our projects.

Dr Robbins brought up the need for a decision soon on the location of the referral center. He did not seem well oriented on this issue and cited the usual practice of referring patients to either the Aksakovtchina clinic if more diagnostic was needed, or to Dr Demidchik if the diagnosis was firm and surgery was indicated. We emphasized the need for a uniform way of handling referrals in order that the diagnostic work-up be well standardized, and the desirability of having the chief endocrinologist (to be appointed) involved in the selection of the referral site.

Dr Brill described the usefulness of the silicon graphics instrument in the Aksakovtchina clinic and hoped it would be available for our project on a shared basis. Dr Stozharov said he would consult with WHO (Geneva) since WHO had provided the equipment..

We again emphasized the importance of a small working group dedicated to making the preparations necessary for the project to start.

Dr Stozharov talked about "national" and "state" projects, mentioning that, for our project, he had some very limited funds from the MES for such functions as the preparation of the Manual, the forms, the design of the interview, etc., under the "state" classification, but that only the Council of Ministers could designate a project as :national". A "national" project would have a guarantee of funding, but the government controls would be strict. He evidently has some "national" projects that are finished or that are just winding down.

Our final visit with Dr Stozharov occurred on 23 May, at which time we reported on our discussions on the case-control study with Drs Astakhova and Dr Moshchik, and indicated that we were dependent on them for some finishing touches on the MS, and on Dr Moshchik for completing the statistical analysis with the SAS software. Arthur had a problem with the software that seemed likely to result in some delay, but with Dr Brill's help this was overcome and effective use of the SAS software seems assured, provided that Myron will send not only the results of his work here but also instructions on how his analyses were accomplished. Dr Stozharov seemed pleased that Dr Astakhova probably would be able to present the results of the case-control study in November at the WHO meeting. He made a remark to the effect that people who started things ought to be allowed to finish them. We indicated, however, that we might have a scheduling problem in relation to the submittal of the primary paper to the New England Journal of Medicine.

We gave Dr Stozharov a copy of the tentative time-lines that had been worked out with Dr Voronetsky during our visit, 3 pp of tasks listed in date order and keyed to sections of the Manual, remarking that it would need editing and revision after consultation with those asked to carry out the individual tasks. A copy is attached.

Dr Stozharov introduced the topic of progress reports, and we settled on the idea of a monthly report to which both sides would contribute. Later it could be quarterly, perhaps. I suggested that it be circulated to the Oversight Committee. We did not decide on the date of the first issue, but it ought to be i July.

I brought up the need for a USA consultant or representative on the ground in Minsk and expressed the hope that we might soon be able to bring Dr Cherniack back in this role, once the agreement between NCI and Yale had been signed. I mentioned Dr Voronetsky's opinion that a stay of perhaps three weeks every few months might suffice, and indicated that he and Dr Wachholz would do well to discuss this in light of the need and the resources. I recommended that the coverage by USA representatives be more complete or more nearly continuous at this time when preparations were being made for the start-up. I said frankly that I thought the presence of a USA representative would help to keep the pressure on the effort to get ready.

In presenting the time-lines I remarked that they raised in my mind the question whether he had the personnel to commit to the effort in the absence of USA funding at this time, and that I was embarrassed by the situation we faced. I hoped, nevertheless, that he would find a way to build and maintain the momentum needed to get the pilot work started in September.

We reported on the considerable progress Dr Robbins and Dr Brill had made on the forms, especially the 4 central forms for

ultrasonography, palpation, the preliminary endocrinological summary and recommendations, and the final endocrinological summary and recommendations. With Dr Orlov in the hospital, however, we had been unable to do anything effective on the Manual. We had left a copy of the most recent version marked with all changes since the November version which was the basis of the translation into Russian.

We talked briefly about Dr Wachholz' impending visit and hoped that he and Dr Stozharov would lay all their cards on the table and discuss financial matters frankly. I said that Dr Wachholz probably should remain in Minsk beyond Tuesday to work on the matter, learning the facts, and helping him to persuade the Belarussian Government to provide some support for the project. This led to a frank exchange and an aura of especially good feeling, I thought.

We learned that the Minister was in Vitebsk attending a meeting concerned with the possibility of an accident in the nearby Lithuanian nuclear power plant. Dr Stozharov began to describe the 18 May "competition" at which Dr Astakhova had been voted down (see Astakhova, below) but we told him we had already learned this from Dr Voronetsky.

Dr Stozharov reported that Dr Danilova of the Aksakovtchina Clinic had accepted appointment as chief endocrinologist for the project. Dr Orlov is in her laboratory.

Dr Brill reported on his negotiations with Dr Rzheutski to permit the use of a WHO ultrasound instrument during the first 2-3 months of the project.

The referral center again came up for discussion and this time it appeared that Dr Stozharov was more amenable to the selection of Aksakovtchina for this role.

We talked about iodine determinations for mapping purposes and urged that arrangements be made to share facilities and data with WHO as a matter of efficiency. This would require coordination with respect to sampling as well as in the laboratory and the analysis of the data.

Time-Lines We had the two-page summary Dr Cherniack had developed on his last visit to Minsk and the notes on additional items that I had made in March. We decided to go through the Manual page-by-page, listing out the tasks referred to, or implied, there. These were then consolidated in the fashion described above (see Stozharov). An essential task was soon developed for Dr Voronetsky and Dr Petrenko: to check the supplies and equipment on hand against the lists in the Manual, and to complete this before the arrival of

Sheila Hendrickson on 19 June. One thing that seemed to be lacking was folders for forms to be carried by the subject from one examining station to the next. Dr Voronetsky was encouraged to investigate this, but he indicated that he could not expect to find transparent plastic folders which we thought most desirable. They could be re-used.

Locating the Test Sample of the Measurement File: A year ago we had suggested that a representative sample of 600 be selected from the measurement file and located by whatever means were available. We had thought this would provide the information needed to establish the most effective strategy for creating the cohort according to the protocol. Dr Voronetsky had done about as much as he could without actually going into the field to the villages where the measurements were made. (He has seemed unwilling to visit the Institute of Biophysics in Moscow to learn the details of the measurement effort). He had reached the half-way mark and demonstrated that (1) it would be inefficient to take that file as the starting-point rather than mapping source files into it, and (2) we could never be sure of having a tight grip on the 1986-1996 experience, as we could be certain of unbiased ascertainment only prospectively from the date our screening began. I made a serious mistake in not working with him on possible access to the passport file of Internal Security, which we had discussed in March. Perhaps half or more of our intended cohort has passport numbers by now and it might be possible, at a price, to arrange for access to the passport files. I urged him to write up the experience for review and he agreed. He also said he would like to publish the report in Belarus as little or no work of this kind had been done.

Selecting the Cohort: On the basis of the work with the sample of 600 it was possible to map out a tentative plan that would (1) provide ample subjects with which to start the project and (2) allow flexibility with respect to the inclusion of subjects measured in the Brest region if that material proved acceptable to the dosimetry group, or, alternatively to develop plans for the use of subjects with "passport" doses. The discussion also raised in my mind the possibility that, if the Brest material were acceptability, we might be able to strengthen the sample selection by giving more weight to the high-dose group, while keeping the total cohort size at 15 K. This would have to go before the Oversight Group as a change in the protocol. Consideration might even be given to expanding the cohort beyond 15 K if the resources were available. In developing the protocol we had originally proposed a much larger sample than 15 K, but Dr Astakhova had indicated that 15 K would be the most she could handle with her resources. Such an increase would be especially attractive if we were forced to abandon the Ukrainian study.

In brief, the tentative plan is to map each of a number of files containing addresses, or with easy access to addresses, e.g., the files of the large dispensaries, into the measurement file, unduplicating the matches source by source. Then all high-dose (over 1 Gy) subjects could be put into the high-dose group of the cohort as they were found, with an expectation of about 1,500, according to the results obtained with the sample of 600. Children in the two lower dose groups could be selected at random for

inclusion in the cohort but in numbers insufficient to satisfy the sampling plan of the cohort. This would leave room for subjects measured in Brest to be added later should that material pass muster with the dosimetry group and the Oversight Committee agree.

We sketched out an outline of a proposal for which Dr Voronetsky would prepare the first draft. I emphasized the necessity for circulating the proposal to both Belarussian and USA principals before taking action. Implementation would have to begin promptly, however, at least with respect to the Minsk Dispensary sample, in order that ample subjects be available with which to begin serious screening in October after the pilot work was finished and evaluated.

Case-Control Study: Dr Astakhova came to the hotel the afternoon of 23 May for 2-3 hours, with Dr Olga Polyanskaya interpreting. She claimed not to have seen her 19 April e-mail letter and said that Arthur's e-mail was unreliable. There was no Russian version of the draft MS pages sent to her for review and her co-authors had not seen the material. Dr Robbins had learned independently from Dr Cherstvoy that he had never heard of any MS, although he was familiar with the existence of the study and of his role in it.

We reviewed Dr Robbins' paragraph on the origin of the series and she seemed satisfied with it. During the discussion, however, I noted that the paragraph did not account for all 119 cases we had started with and believe now that it should. With the information Myron has in file I think we can easily remedy this defect.

Dr Astakhova questioned the count of 305 that we are tentatively using for all cases diagnosed through 1993 among those 0-14 at the time of the accident. When we explained that Dr Moshchik had agreed to review this number, so different from the numbers she and Dr Demidchik use, i.e., of children 0-14 at diagnosis, she said she also wanted to look into it. We explained the implications of the difference between age at the time of the accident and age at diagnosis.

Dr Astakhova thought she might add 1-2 early references to the introduction. She had not been informed by Dr Moshchik of his results, odds ration (ORs) of 6 or 7 in comparisons of the under 30 rad against the 100 or more rad. We reviewed her list of authors again and she definitely wants Arthur Kuvshinnikov added: Nalivko, Demidchik, Cherstvoy, Moshchik, Tochitska, and Kuvshinnikov, in addition to herself. We also need a list of authors representing dosimetry.

Dr Astakhova liked the idea of presenting the material at the WHO meeting in November. We discussed the possibility that Dr Moshchik might not be able to complete his side of the parallel analysis in time. She agreed that a complete replication in Minsk would not be necessary as long as the ORs were compatible on the main results. We should set a deadline for the completion of the analysis if we can, with Dr Moshchik and Myron.

We mentioned he need for two papers, since the WHO wants to publish its proceedings and the NEJM is very wary of duplication. Something other than "elegant variation" will be required. Perhaps we could have her paper present the results in graphic form. We went over the NEJM instructions for authors and left a copy with her, suitably marked. We also mentioned the need for names in an acknowledgement. She mentioned Kazakov and Matukhin.

Dr Astakhova's home address is:

Essenin Street, 105-36
Minsk 220088

and her home telephone number is 79-7265. We may have to communicate by mail.

We met with Dr Moshchik twice and reviewed with him my letter of 30 March to which he had not replied. He provided some ORs that he had calculated in comparisons of two dose groups:

Group	<30 vs 30-100	<30 vs 100+
Total (Group I)	1.63	6.4
RES	3.67	7.2
IF	2.0	*

The asterisk indicates an indeterminate result because of a 0 frequency. He ran into this on the ET group also.

Dr Moshchik had just returned from an extensive trip in the southern part of the country and seemed quite out of touch with the project. It was necessary to see him twice to solidify agreement on what he would provide:

a reference to the source of the population data
verification or correction of the 305 count we are using for cases observed through 1993
verification of Dr Robbins' paragraph on the selection of the cases.

With reference to the selection of cases, he disbelieves that all were seen at Aksakovtchina. A table of age in 1986 vs date of surgery might throw light on this possibility as the Clinic might not have been seeing 20-year-olds, e.g., cases in 14-year-olds operated on in 1992.

Dr Moshchik had calculated some expected values based on the Belarussian rates published in the IARC vol VI. An abstract is attached. Using 5-year age-groups he obtained an expectation of 37 cases through 1993 in those 0-14 in 1986. I had obtained 32 in a calculation using single years of age.

Publicity: Apparently the project has enjoyed little or no publicity. The attitude of Dr Stozharov and Dr Voronetsky is very different from that of Dr Kazakov, and we may expect a minimalist approach unless we are more aggressive. According to Dr Voronetsky July or August might be appropriate, before the pilot work. Dr Voronetsky said there was no unit in the Ministry that would design the publicity for the Institute.

WHO Case-Control Project: Dr Irena Khamara may be in charge, with Dr Moshchik helping. There is to be no overlap with the present case-control study but controls (4:1) are to be sought in the same pattern as was used in the first study. Family histories are to be sought in order to explore genetic predisposition. About 1,000 subjects and controls are to be studied. The study has been "approved" but I did not learn at what level.

Brest Material: Dr Voronetsky expects to reach an understanding with the Moscow dosimetry group in June, following which the role of the Brest material could be considered for inclusion in the cohort. Hopefully, Dr Anspaugh and Dr Bouville will be on the scene when this is discussed. I suggested that referral to the Oversight Group would be necessary but this is likely to be a mere formality if the dosimetrists favor its use. Dr Voronetsky expects that screening of the Brest subjects would be done in Minsk rather than in a third fixed center in the Brest Oblast. Patients are already coming to the Clinic from the three raions of major interest: Stolin, Pinck, and Luninets. In 1994, according to Dr Voronetsky, the incidence of thyroid cancer in children was 3.2 for Belarus, 4.8 for Brest, and 12.0 for Gomel.

Dr Voronetsky is already engaged in a study in Brest involving 2.5 K subjects, some exposed, some born after the accident, and some in Vitebsk. The numbers are probably 1,000, 1,000, and 500, in that sequence. All systems are being examined, with screening of thyroid by ultrasound and palpation, in polyclinics. He says Minenko has some whole=-body counter data that he would be able to use. On referral, subjects go to Aksakovtchina and more than 100 have been referred there for one thing or another. Dr Voronetsky speaks of special soil characteristics in these three raions that bind to radionuclides only weakly, so that radiation enters the food chain more easily. He is seeing an increase in intestinal disease, heart disease, and respiratory disease, presumably in relation to the Chernobyl accident, but I decided not to explore this with him. He will report these data at the Sakarov meeting next month; there will be three other epi reports from the institute at that meeting, one on Brest, and two on clean-up workers. He says he is seeing cataracts in clean-up workers and wants a copy of the Pittsburgh study.

In Utero Sample: Dr Voronetsky and I talked about the accrual of in utero subjects as required by the protocol and I suggested that plans be made for this but that they not be activated until next year. There is a WHO sample he would like to use but he didn't seem to know how it was accumulated. I urged him to find out how it was put together. He also needs information on where the Moscow group made measurements in order to select the obstetrical hospitals to visit.

Computers: Dr Voronetsky seemed upset that he lacked computers to put the cohort together. He was hoping that the incoming shipment, due 26 May, would have something for his group. Dr Mitchell had recommended that he have 4, but it seemed clear to me that they would not be in this first shipment and that he would have to borrow equipment from other units until his arrived. When we saw Dr Wachholz on 25 May he told us that LLNL had requested that the shipment, due 26 May, be returned to LLNL because the customs issue was supposed to have been settled before shipment was made. Sheila was very upset. Were it accepted, she might be accused of unauthorized procurement and her job would be in jeopardy. She had written to Dr Stozharov explaining the situation and asking that the shipment not be accepted but returned. Arthur had been talking as though such equipment could be accepted and even put to use, under bond of some kind, pending settlement of the customs issue. Arthur also said there had been no trouble receiving the WHO computers, perhaps because they were few and were included among other items of equipment under the designation "humanitarian aid".

Funding: We were told by Dr Voronetsky that he was not funded to work on our project, that he had to take time from others that are funded, like his study of clean-up workers. It appears that a separate group is designated for each approved project, but not necessarily of full-time people. Previously they enjoyed annual funding from the Ministry of Chernobyl, but now the funding is month by month. The Program Committee of the Institute would apply to the Ministry of Chernobyl for funding a project. He didn't think money had come from WHO for its projects. WE should find out.

Medical Library: Dr Brill, Dr Robbins, and I visited the National Medical Library together with Dr Rytik who had arranged for us to investigate why the Library was not using the U Mass service more effectively. Three requests had been made to U Mass without reply. Dr Brill is looking into the reasons why nothing is moving. The Library has a copier that makes single copies. They have funding for e-mail, about $100/mo, but may need more, mainly for the communication with the NLM which seems to be working well. The Library is in contact with Dr Locatis at the NLM. They provided a journal listing; this year they spent $30 K on subscriptions to foreign journals. They receive CDs from the NLM quarterly.

The Library has a "User's Guide, Grateful Med, Version 6" but that does not list all journals and abbreviations. They would like the book that NLM puts out.

Sakarov Institute: Dr Richard Wilson had been importuning me to visit and this time in Minsk was opportune as I had received an invitation from the Director, Dr Alexander Lutsko, to give a paper at the upcoming symposium being organized by the Institute. It has been called the International College of Radioecology as well as the International Institute on Radioecology after A Sakharov. Dr Lutsko turned out to be a very dynamic, idealistic person, accustomed to

giving whirlwind tours of the facility. The Institute is largely dependent on foreign sources of support. For example, SOROS gave a room-full of computers. There are 5 departments, 31 full-time staff + 6 visiting staff, about 200 students. The Institute is in its third year and now has university status. Wilson is chairman of the advisory board. One chair has been supported by UNESCO. Students combine research and course-work.

There are departments of: radioecology and agrobiology; nuclear physics and radiochemistry; radiobiology, radiation and nuclear medicine; humanities; and international affairs. The Institute has a field station in Khoiniki. Initially it was part of the Belarussian State University. In 1995 the Institute may graduate 48, in 1996, 49. It will give the BS degree after 4 years, the MS, after two more. The Institute does some research under contract ($13 K in 1995). Library facilities are woeful. They seem to have a good computer mapping program.

Forms: We noted a mis-alignment in the listing of thyroid diagnoses. It was decided to limit the preliminary endocrinologic summary to a single page for the family, but to keep the detail for the study file. Presumably this carries over to the final endocrinologic form that goes also to the polyclinic. We agreed that the instructions for both of these forms should include something akin to "specify the basis for any suspicion of malignancy."

The ultrasound form should have the same diagram as the palpation form, at least with respect to the thyroid gland, so that the same codes will be used in noting locations. Use Roman and Arabic numbers in lieu of letters. Dr Robbins and Dr Brill had some trouble with "multinodular", as the description of a single nodule does not fit the multinodular situation. As they discussed it, I thought of the contrast between garlic (multinodular) and a single nodule (onion), but in any event multinodular is evidently not merely more than one nodule. This form, and the palpation form, have been re-worked and will bear essentially final re-formatting for trial use (see time-lines). On the palpation form, localized swelling should be coded and it need not be confined to a single location. There was some discussion of the numeric codes for present, absent, and unknown, with a preference for standardization throughout all the forms. For example, when only present, absent, and unknown are possible,, we might use 1, 0, and 9 in that order. On gland size, Grade 1 is palpable but not visible. Consider moving to the back some of the coding instructions, e.g., what to do if a nodule straddles 2 sub-areas. Should the diagram go on the back? It was suggested that the passport number be added to the ID as soon as we learn that it has been assigned.

The Initial Interview: It does not appear that anything had been done on this except that Dr Voronetsky has sought, but could not find, the sociologist whose name I had provided 2 years ago (Dr Jacob L'vovich Kolominski, at the Belarussian State University). I shall have to provide other leads in Moscow

and Kiev. We met with Dr Drozdovitch of the dosimetry group for an hour or so and discussed the content of the interview (medical and dosimetry parts), the need for a parent to provide information, the desirability of some expert help if available in Minsk, the need for training, the selection of personnel to perform the interview (Dr Drozdovitch didn't think dosimetry personnel would be available), etc. I saw no evidence of activity on the dosimetry aspect of the interview, but Dr Voronetsky and Dr Drozdovitch agreed that they would try to have a draft put together in 2 weeks! I said I thought we could provide the questions on medical history.

Dr Cherniack: I was at some pains to indicate to both Dr Stozharov and Dr Voronetsky that we were expecting Martin to return to Minsk to work on the project and that we were waiting for a contract to be signed by Yale and the NCI. There was never any demurrer to this. At the end of our last day Dr Voronetsky treated us to a spread of rather nice sandwiches and vodka. During the course of a friendly and very informal conversation DR Voronetsky indicated that he regretted having spoken about Martin to Lynn and/or Andre and sought to excuse it as an ill-considered, off-the-cuff, remark that he shouldn't have made. (I wondered privately if he had been feeling put upon by Martin in their search for furniture, an effort that I think took 2-3 days, but I did not comment further).

Dr Astakhova: On 18 May there was a meeting of the senior staff attended by the Minister, the purpose being to vote on the personnel composition of the research team for the next several years. Dr Astakhova was up for renewal, as was Dr Orlov. Before a vote was taken, the Minister made a strong plea for Dr Astakhova that may have turned some people off. In any event, the vote was 13 against, 8 for. Michael had 5 votes against him and survived. We were told that the rules allowed a second vote at the Ministers request, but that the vote would likely be the same. There seems to be some resentment of Dr Astakhova on personal grounds, but respect for her scientific ability. The fact that she had stimulated an investigation of the Institute may have been resented by a number of people. Dr Petrenko volunteered that several people had approached him to vote against her, which he did, but not in response to any urging. We were told that she was off the payroll, but the reference may have been to the scientific payroll in which case she might still have a clinical job.

WHO IPHECA Study, Draft Material: Michael had a manuscript that he wanted Dr Robbins to read and comment on, and I also read it and offered comment. I was especially interested in the dose distribution that he was working with, and the relation between dose and age:

Dose range (rad)	Frequency	Age	Mean Dose
0-24	94	7-9	148
25-49	85	10-13	98
50-99	97	14-16	68
100-300	79	17+	30
> 300	22	(age is in 1992-93)	

Referral Center: Dr Korytko was quoted as expecting 300-400 referrals annually from the project, which seemed very high to me. Perhaps referrals for thyroid investigation should be separated from other endocrinologic referrals and the latter sent to the National Endocrinologic Dispensary in Minsk.

Breast Cancer: Dr Orlov had written me about the design of breast cancer screening studies and I had provided him some material. It turned out that the interest was not in optimizing breast cancer screening procedures, including selection of subjects in relation to age, risk factors, etc. but simply in relation to radiation from the Chernobyl accident. Apparently there is a diagnostic clinic in Minsk that sees 200 K subjects annually. It is said to have good ultrasound, CAT, and MRI facilities. There is a desire to screen women for breast cancer and a private USA firm has promised some equipment. The Minister of Health is interested. Unfortunately there was no time, in light of Michael's illness, to discuss elements of design, but obviously dosimetry would be a problem.

Attachments:

5/25/95 Draft Time-lines
Dr Moshchik's calculation of expected numbers of cases 0-14 in 1986.